LITERATURE REVIEW

What is LR?

- A literature review discusses published information in a particular subject area, and sometimes information in a particular subject area within a certain time period.
- A literature review can be just a simple summary of the sources, but it usually has an organizational pattern and combines both summary and synthesis.

What is LR?

- It involves the systematic identification, location and analysis of documents containing information related to the research problem

What is LR?

- A *summary* is a recap of the important information of the source, but a *synthesis* is a re-organization, or a reshuffling, of that information.
- It might give a new interpretation of old material or combine new with old interpretations.
- Or it might trace the intellectual progression of the field, including major debates.
- And depending on the situation, the literature review may evaluate the sources and advise the reader on the most pertinent or relevant.

What is LR?

- The format of a review of literature may vary from discipline to discipline and from assignment to assignment.
- A review may be a self-contained unit -- an end in itself -- or a preface to and rationale for engaging in primary research. A review is a required part of grant and research proposals and often a chapter in theses and dissertations.
- Generally, the purpose of a review is to analyze critically a segment of a published body of knowledge through summary, classification, and comparison of prior research studies, reviews of literature, and theoretical articles.

What is LR?

- A literature review is the effective evaluation of selected documents on a research topic.
- A review may form an essential part of the research process or may constitute a research project in itself.
- In the context of a research paper or thesis the literature review is a critical synthesis of previous research.
- The evaluation of the literature leads logically to the research question.

What is LR?

A 'good' literature review.....

..... is a synthesis of available research
..... is a critical evaluation
..... has appropriate breadth and depth
..... has clarity and conciseness
..... uses rigorous and consistent methods

A 'poor' literature review is.....

.....an annotated bibliography
..... confined to description
..... narrow and shallow
..... confusing and longwinded
..... constructed in an arbitrary way

Why write LR?

- The major purpose is to determine what has already been done that relates to your problem
- It points out research strategies and specific procedures and measuring instruments that have been used
- Facilitate interpretation of the results of the study

Why write LR?

- Heavily researched areas usually provide enough references directly related to a specific problem to eliminate the need for relying on less related studies
- New or little researched problem areas require review of any study related in some eanigful way to the problem in order to develop a logical framework and a sound rational Ha

Why write LR?

- Literature reviews provide you with a handy guide to a particular topic. If you have limited time to conduct research, literature reviews can give you an overview or act as a stepping stone.
- Literature reviews also provide a solid background for a research paper's investigation. Comprehensive knowledge of the literature of the field is essential to most research papers.

Why write LR?

- For professionals, they are useful reports that keep them up to date with what is current in the field.
- For scholars, the depth and breadth of the literature review emphasizes the credibility of the writer in his or her field

Why write LR?

- The purpose of a literature review is for you to take a critical look at the literature (facts and views) that already exists in the area you are researching.
- A literature review is not a shopping list of everything that exists, but a critical analysis that shows an evaluation of the existing literature and a relationship between the different works.
- It demonstrates the relevance of the research.

Why write LR?

- Literature can include books, journal articles, internet (electronic journals), newspapers, magazines, theses and dissertations, conference proceedings, reports, and documentaries.
- Literature reviews are written occasionally in the humanities, but mostly in the sciences and social sciences; in experiment and lab reports, they constitute a section of the paper.
- Sometimes a literature review is written as a paper in itself.

Why write LR?

- In the context of a research paper on a thesis, the literature review provides a background to the study being proposed.
- The background may consider one or more of the following aspects depending on the research question being posed:
  - Theoretical background – past, present or future
  - Clinical practice – previous or contemporary
  - Methodology and/or research methods
  - Previous findings
  - Rationale and/or relevance of the current study

Why write LR?

- In a broader context Hart (1998) lists the following purposes of a review:
  - Distinguishing what has been done from what needs to be done;
  - Discovering important variables relevant to the topic;
  - Synthesising and gaining a new perspective;
  - Identifying relationships between ideas and practice;
  - Establishing the context of the topic or problem;

Why write LR?

- Rationalising the significance of the problem;
- Enhancing and acquiring the subject vocabulary;
- Understanding the structure of the subject;
- Relating ideas and theory to applications;
- Identifying methodologies and techniques that have been used;
- Placing the research in a historical context to show familiarity with state-of-the-art developments.

Why write LR?

- Its purpose is to:
  - Place each work in the context of its contribution to the understanding of the subject under review
  - Describe the relationship of each work to the others under consideration
  - Identify new ways to interpret, and shed light on any gaps in, previous research
  - Resolve conflicts amongst seemingly contradictory previous studies
  - Identify areas of prior scholarship to prevent duplication of effort
  - Point the way forward for further research
  - Place one's original work (in the case of theses or dissertations) in the context of existing literature

WHAT IS THE LITERATURE?

“The literature" means the works you consulted in order to understand and investigate your research problem. In other words, the literature review is a *critical look* at the existing research that is significant to the work that you are carrying out.

How useful are the following sources (Literature search)?

- Journals
- Books
- Conference
- Report
- Newspapers
- Thesis
- Internet
- CD-ROM
- Magazines

Journal articles: these are good especially for up-to-date information. Bear in mind, though, that it can take up to two years to publish articles. They are frequently used in literature reviews because they offer a relatively concise, up-to-date format for research, and because all reputable journals are refereed (i.e. editors publish only the most relevant and reliable research).

Books: books tend to be less up-to-date as it takes longer for a book to be published than for a journal article. Text books are unlikely to be useful for including in your literature review as they are intended for teaching, not for research, but they do offer a good starting point from which to find more detailed sources.

Conference proceedings: these can be useful in providing the latest research, or research that has not been published. They are also helpful in providing information on which people are currently involved in which research areas, and so can be helpful in tracking down other work by the same researchers.

Government/corporate reports: many government departments and corporations commission or carry out research. Their published findings can provide a useful source of information, depending on your field of study.

Newspapers: since newspapers are generally intended for a general (not specialized) audience, the information they provide will be of very limited use for your literature review. Often newspapers are more helpful as providers of information about recent trends, discoveries or changes, e.g. announcing changes in government policy, but you should then search for more detailed information in other sources.

Theses and dissertations: these can be useful sources of information. However there are disadvantages: 1) they can be difficult to obtain since they are not published, but are generally only available from the library shelf or through interlibrary loan; 2) the student who carried out the research may not be an experienced researcher and therefore you might have to treat their findings with more caution than published research.

Internet: the fastest-growing source of information is on the Internet. It is impossible to characterize the information available but here are some hints about using electronic sources: 1) bear in mind that anyone can post information on the Internet so the quality may not be reliable, 2) the information you find may be intended for a general audience and so not be suitable for inclusion in your literature review (information for a general audience is usually less detailed) and 3) more and more refereed electronic journals (e-journals) are appearing on the Internet - if they are refereed it means that there is an editorial board that evaluates the work before publishing it in their e-journal, so the quality should be more reliable (depending on the reputation of the journal).

CD-ROMS: at the moment, few CR-ROMs provide the kind of specialized, detailed information about academic research that you need for your own research since most are intended for a general audience. However, more and more bibliographies are being put onto CD-ROM for use in academic libraries, so they can be a very valuable tool in searching for the information you need.

Magazines: magazines intended for a general audience (e.g. Time) are unlikely to be useful in providing the sort of information you need. Specialized magazines may be more useful (for example business magazines for management students) but usually magazines are not useful for your research except as a starting point by providing news or general information about new discoveries, policies, etc. that you can further research in more specialized sources.

Tips for performing literature search

- Note interesting quotes and their references as you go along
- Use outstanding review articles
- Reference correctly from the start
- Organize material you read
- Start with a broad search before you focus

Outstanding Review Article

From outstanding publisher.

Journal : ACM, IEEE, Elsevier, Springer, Kluwer, Taylor & Francis, IEICE, MIT, IOS Press, Pergamon, WorldScientific, dll.

Sequence of abstracts/indexes

(Engineering, Science & Technology)

- Science Citation Index (SCI, SCI Expanded)
- CompuMaths Citation Index
- Current Contents (Engineering, Computing, Technology)
- Cambridge Scientific Abstracts
- Computer Abstracts UK, CompuSci
- Mathematics Review USA
- Mathematics Abstracts Germany
- DBLP Bibliography
- INSPEC

503 journals are indexed/abstracted by SCI/SCI Exp

WHY WRITE A REVIEW OF THE LITERATURE?

It is not supposed to be just a summary of other people's work!

You *evaluate* relevant research work, show the *relationships* between different work, and show how it relates to *your* work (what work has already been done in your research area). Show how it relates to the other work (e.g. What other methodologies have been used? How are they similar? How are they different?) and show how it relates to *your* work (what is its relationship to your methodology?).

The spectrum of the related issues

WHY WRITE A REVIEW OF THE LITERATURE?

Here are some of the questions your literature review should answer:

1. What do we already know in the immediate area concerned?
2. What are the characteristics of the key concepts or the main factors or variables?
3. What are the relationships between these key concepts, factors or variables?
4. What are the existing theories?
5. Where are the inconsistencies or other shortcomings in our knowledge and understanding?
6. What views need to be (further) tested?
7. What evidence is lacking, inconclusive, contradictory or too limited?
8. Why study (further) the research problem?
9. What contribution can the present study be expected to make?
10. What research designs or methods seem unsatisfactory?

HOW CAN I WRITE A GOOD LITERATURE REVIEW?

Remember the purpose*:* it should answer the 10 questions. Look at how published writers review the literature. You'll see that you should use the literature to explain your research - after all, you are not writing a literature review just to tell your reader what other researchers have done. Your aim should be to show why your research needs to be carried out, how you came to choose certain methodologies or theories to work with, how your work adds to the research already carried out, etc.

Read with a purpose: you need to *summarize* the work you read but you must also decide which ideas or information are important to your research (so you can emphasize them), and which are less important and can be covered briefly or left out of your review. You should also look for the major concepts, conclusions, theories, arguments etc. that *underlie* the work, and look for *similarities* and *differences* with closely related work. This is difficult when you first start reading, but should become easier the more you read in your area.

Cont.....

Write with a purpose*:* your aim should be to evaluate and show relationships between the work already done (Is Researcher Y's theory more convincing than Researcher X's? Did Researcher X build on the work of Researcher Y?) and between this work and *your own*. In order to do this effectively you should carefully plan how you are going to organize your work.

Example of the spectrum of issues or problems

The spectrum of the issues or problems of mining AR

year	model	advantage	disadvantage
1994 Agrawal	Apriori algorithm	1st and workable	Bottleneck, due too many candidate itemset generated, needs huge memory and storage
2000 zaki	Lattice theory	Avoidance of generating redundant AR	Cannot support frequent itemset with lower thresholds, less storage
2000 Yang et. al	Binary Trie	Less memory requirements	Difficult to be updated whenever the database changes
2001 Coenen et al.		Improve binary trie	Requires another step to obtain the actual support count of an itemset

Example for issues and problems

The spectrum of the issues and problems of mining AR

year	model	advantage	disadvantage
2000 J. Han et. al.	FP-growth using FP-tree to generate frequent itemset	No need candidate generation.	Good for low support thresholds
2004	SOTrieITs Enhancement of FP-growth	Good performance and support threshold independence, can incrementally updated when new transactions arrives.	Only for two levels

TRAPS

Some traps to avoid:

Trying to read everything! As you might already have discovered, if you try to be comprehensive you will never be able to finish the reading! The idea of the literature review is not to provide a summary of all the published work that relates to your research, but a survey of the most relevant and significant work.

Reading but not writing! It's easier to read than to write: given the choice, most of us would rather sit down with a cup of coffee and read yet another article instead of putting ourselves in front of the computer to write about what we have already read! Writing takes much more effort, doesn't it? However, writing can help you to understand and find relationships between the work you've read, so don't put writing off until you've "finished" reading - after all, you will probably still be doing some reading all the way through to the end of your research project. Also, don't think of what you first write as being the final or near-final version. Writing is a way of thinking, so allow yourself to write as many drafts as you need, changing your ideas and information as you learn more about the context of your research problem.

TRAPS

Not keeping bibliographic information! The moment will come when you have to write your references page . . . and then you realize you have forgotten to keep the information you need, and that you never got around to putting references into your work. The only solution is to spend a lot of time in the library tracking down all those sources that you read, and going through your writing to find which information came from which source. If you're lucky, maybe you can actually do this before your defense - more likely, you will unable to find all your sources, a big headache for you and your committee. To avoid this nightmare, always keep this information in your notes. Always put references into your writing. Notice how on this course we have referenced the works that we have referred to - you should do the same.

Notice how the writers have:

grouped similar information: "Steudell [13], Tanchoco and Agee[14], Tanchoco et al. [15] and Grasso and Tanchoco [5] studied various aspects of this subject."

shown the relationship between the work of different researchers, showing similarities/differences: "The general results, reflecting the stochastic nature of the flow of goods, *are similar to* those reported by Rosenblatt and Roll [12]."

indicated the position of the work in the research area history: "*Early* work by Hausman, Schwarz and Graves [6, 7] . . . "

moved from a *general* discussion of the research in AS/RS to the more *specific* area (optimal container size) that they themselves are researching i.e. they relate previous work to their own to define it, justify it and explain it.

What should I do before writing the literature review?

- **Clarify**
  - If your assignment is not very specific, seek clarification from your supervisor/lecturer:
  - Roughly how many sources should you include?
  - What types of sources (books, journal articles, websites)?
  - Should you summarize, synthesize, or critique your sources by discussing a common theme or issue?
  - Should you evaluate your sources?
  - Should you provide subheadings and other background information, such as definitions and/or a history?

What should I do before writing the literature review?

- **Find models**
  - Look for other literature reviews in your area of interest or in the discipline and read them to get a sense of the types of themes you might want to look for in your own research or ways to organize your final review. You can simply put the word "review" in your search engine along with your other topic terms to find articles of this type on the Internet or in an electronic database. The bibliography or reference section of sources you've already read are also excellent entry points into your own research.

What should I do before writing the literature review?

- **Narrow your topic**
  - There are hundreds or even thousands of articles and books on most areas of study. The narrower your topic, the easier it will be to limit the number of sources you need to read in order to get a good survey of the material. Your instructor will probably not expect you to read everything that's out there on the topic, but you'll make your job easier if you first limit your scope.

What should I do before writing the literature review?

- **Consider whether your sources are current**
  - Some disciplines require that you use information that is as current as possible. In the sciences, for instance, treatments for medical problems are constantly changing according to the latest studies. Information even two years old could be obsolete.

What should I do before writing the literature review?

- However, if you are writing a review in the humanities, history, or social sciences, a survey of the history of the literature may be what is needed, because what is important is how perspectives have changed through the years or within a certain time period.
- Try sorting through some other current bibliographies or literature reviews in the field to get a sense of what your discipline expects.
- You can also use this method to consider what is "hot" and what is not.

What should I do before writing the literature review?

- **Find a focus**
  - A literature review, like a term paper, is usually organized around ideas, not the sources themselves as an annotated bibliography would be organized. This means that you will not just simply list your sources and go into detail about each one of them, one at a time.
  - No.

What should I do before writing the literature review?

- As you read widely but selectively in your topic area, consider instead what themes or issues connect your sources together.
- Do they present one or different solutions?
- Is there an aspect of the field that is missing?
- How well do they present the material and do they portray it according to an appropriate theory?
- Do they reveal a trend in the field?
- A raging debate?
- Pick one of these themes to focus the organization of your review.

What should I do before writing the literature review?

- **Construct a working thesis statement**
  - Then use the focus you've found to construct a thesis statement. Yes! Literature reviews have thesis statements as well! However, your thesis statement will not necessarily argue for a position or an opinion; rather it will argue for a particular perspective on the material.

What should I do before writing the literature review?

- Some sample thesis statements for literature reviews are as follows:
  - *The current trend in treatment for congestive heart failure combines surgery and medicine.*
  - *More and more cultural studies scholars are accepting popular media as a subject worthy of academic consideration.*

What should I do before writing the literature review?

- **Consider organization**
  - You've got a focus, and you've narrowed it down to a thesis statement.
  - Now what is the most effective way of presenting the information?
  - What are the most important topics, subtopics, etc., that your review needs to include?
  - And in what order should you present them?

What should I do before writing the literature review?

- Develop an organization for your review at both a global and local level:
- **First, cover the basic categories**
  - Just like most academic papers, literature reviews also must contain at least three basic elements: an introduction or background information section; the body of the review containing the discussion of sources; and, finally, a conclusion and/or recommendations section to end the paper.

What should I do before writing the literature review?

- *Introduction:* Gives a quick idea of the topic of the literature review, such as the central theme or organizational pattern.
- *Body:* Contains your discussion of sources and is organized either chronologically, thematically, or methodologically (see below for more information on each).
- *Conclusions/Recommendations:* Discuss what you have drawn from reviewing literature so far. Where might the discussion proceed?

What should I do before writing the literature review?

- **The introduction** should provide the reader with the scale and structure of your review. It serves as a kind of map.
- **The body** of the review depends on how you have organised your key points. Literature reviews at postgraduate level should be evaluative and not merely descriptive. For example possible reasons for similarities or differences between studies are considered rather than a mere identification of them.
- **The conclusion** of the review needs to sum up the main findings of your research into the literature. The findings can be related to the aims of the study you are proposing to do. The reader is thus provided with a coherent background to the current study.

What should I do before writing the literature review?

- **Organizing the body**
  - Once you have the basic categories in place, then you must consider how you will present the sources themselves within the body of your paper. Create an organizational method to focus this section even further.
  - To help you come up with an overall organizational framework for your review, consider the six typical ways of organizing the sources into a review:
    - *Chronological*
    - *By publication*
    - *By trend*
    - *Thematic*
    - *Methodological*
    - *Questions for Further Research*

What should I do before writing the literature review?

- Similar to primary research, development of the literature review requires four stages:
  - Problem formulation—which topic or field is being examined and what are its component issues?
  - Literature search—finding materials relevant to the subject being explored
  - Data evaluation—determining which literature makes a significant contribution to the understanding of the topic
  - Analysis and interpretation—discussing the findings and conclusions of pertinent literature

What should you write?

- the accepted facts in the area
- the popular opinion
- the main variables
- the relationship between concepts and variables
- shortcomings in the existing findings
- limitations in the methods used in the existing findings
- the relevance of your research
- suggestions for further research in the area.

What should you write?

- Literature reviews should comprise the following elements:
  - An overview of the subject, issue or theory under consideration, along with the objectives of the literature review
  - Division of works under review into categories (e.g. those in support of a particular position, those against, and those offering alternative theses entirely)
  - Explanation of how each work is similar to and how it varies from the others
  - Conclusions as to which pieces are best considered in their argument, are most convincing of their opinions, and make the greatest contribution to the understanding and development of their area of research

What should you write?

- In assessing each piece, consideration should be given to:
  - Provenance—What are the author's credentials? Are the author's arguments supported by evidence (e.g. primary historical material, case studies, narratives, statistics, recent scientific findings)?
  - Objectivity—Is the author's perspective even-handed or prejudicial? Is contrary data considered or is certain pertinent information ignored to prove the author's point?
  - Persuasiveness—Which of the author's theses are most/least convincing?
  - Value—Are the author's arguments and conclusions convincing? Does the work ultimately contribute in any significant way to an understanding of the subject?

What should you write?

- **Layout**
  - Make your literature review have an academic and professional appearance. Here are some points to make the look of your report appealing to the reader
- **White space**: leave space between sections, especially from the abstract. This gives an uncluttered effect.
- **Headings/sub-headings**: these help to separate ideas.
- **Text boxes**: you can use these for quotations or paraphrasing to separate them from the rest of your text. It is also pleasing to the eye.

What should you write?

- **Graphics**: centre your graphics, such as diagrams or tables, to have space around them. Try not to bury graphics in your text.
- **Pagination**: you can number pages or sections or both, but the important thing to do is to be consistent. The cover page normally is not numbered. The content page and abstract page usually have a separate numbering system to the body of your literature review.

What should you write?

- **Language focus**
  - Create a balance between direct quotation (citation) and paraphrasing. Avoid too much direct quoting. The verb tense chosen depends on your emphasis:
  - When you are citing a specific author's findings, use the past tense: (found, demonstrated);
  - When you are writing about an accepted fact, use the present tense: (demonstrates, finds); and
  - When you are citing several authors or making a general statement, use the present perfect tense: (have shown, have found, little research has been done).

What should you write?

- **Final checklist**
  - Have I fulfilled the purpose of the literature review?
  - Is it written at a level appropriate to its audience?
  - Are its facts correct?
  - Is all the information included relevant?
  - Are the layout and presentation easy on the eye?
  - Is the language clear, concise and academic?
  - Does the abstract summarise the entire review?
  - Does the introduction adequately introduce the topic?
  - Is the body organised logically?
  - Does the conclusion interpret, analyse and evaluate?
  - Are the recommendations reasonable?
  - Does the table of contents correspond with the actual contents? Are page numbers correct?
  - Have I acknowledged all sources of information through correct referencing?
  - Have I checked spelling, grammar and punctuation?
  - Have I carefully proof-read the final draft?

How to review?

- The whole process of reviewing includes:
  - a. Searching for literature
  - b. Sorting and prioritising the retrieved literature
  - c. Analytical reading of papers
  - d. Evaluative reading of papers
  - e. Comparison across studies
  - f. Organising the content
  - g. Writing the review

How to review?

- **Comparison across studies**
  - The aim is to extract key points by comparing and contrasting ACROSS studies, instead of reading one paper after another.
  - Key points for a review may concern areas of similarities and/or differences in:
  - Research aim(s) or hypotheses
  - Research design and sampling
  - Instruments and procedures used
  - How data were analysed
  - Results or findings
  - Interpretations

How to review?

- Find similarities and differences between studies at **different levels**, e.g.:

  - philosophy
  - epistemology
  - morality
  - methodology
  - methods
  - types of data
  - data analysis
  - interpretation

How to review?

- Set out your thinking on paper through **maps** and **trees**.

Feature map	Classifies and categorises your thought in tabular form
Concept map	Links between concepts and processes, or shows relationship between ideas and practice
Tree construction	Shows how topic branches out into subthemes and related questions or represents stages in the development of a topic.

How to review?

- Tips on writing

Sentences	Express one idea in a sentence. Ensure that all your sentences have a subject, verb and object.
Paragraphs	Group sentences that express and develop one aspect of your topic. Use a new paragraph for another aspect or another topic.
Consistent Grammar	Use sentences and paragraphs with appropriate use of commas, colours and semi-colours. Incorrect use of punctuation can affect the meaning.
Transition Words	Use words that link paragraphs and which show contrast and development to your argument e.g. 'hence', 'therefore', 'but', 'thus', 'as a result', 'in contrast'.

How to review?

- **Pitfalls**
  - Vagueness due to too much or inappropriate generalisations
  - Limited range
  - Insufficient information
  - Irrelevant material
  - Omission of contrasting view
  - Omission of recent work

Sources

- Education index
- Periodical literature
- Disserattion abstract international
- Psychological abstract
- Educational resources information center
- Book
- Computer search

Example

Early works have addressed some of the problems and issues discussed in video retrieval. Researchers have developed ideas and tools for supporting video editing, for example in [8]. They have defined a seamless video editing in the gradient domain. The spatio-temporal gradient fields of target videos are modified or mixed to generate a new gradient field, which is usually not integrate able. They have also described how semantic information about video can be structured and used for content-based access. From a general video archive point of view, the problem with this tool is the lack of support for managing video document structures. A digital video archive serving different categories of users should offer a more structured way of describing video contents

Example

Hidden Markov Models (HMMs) are statistical tools that have been used successfully in modelling difficult tasks such as speech recognition [15] or biological sequence analysis [16]. Inspired by a similar speech application, Hidden Markov model (HMM) has also been applied to activity recognition. The first approach for the human movements based on HMMs was described in [13]. It distinguished between six different tennis strokes. This system divided the image into meshes and counted the number of pixels representing the person for each mesh. The numbers were composed to a feature vector that was converted into a discrete label by a vector quantizer. The labels were classified based on discrete HMMs. In [8], an HMM is used as a representation of simple actions which are recognized by computing the probability that the model produces the visual observation sequence. In [14] layered HMMs were proposed to model single person office activities at various time granularities

Example

Most of the existing work relies on using only a single source of information (example, either audio or visual track data alone). In [4], the average video shot activity and the duration are used as features for the categorization of movies according to the actions. An action scene was characterized by temporally localized properties of video shots which have little or no recurring similar visual contents [5]. Although these visual characters are undoubtedly good indicators of rapidly evolving action contents, they are not enough to determine the desired action. On the other hand, audio-based action detection was independently performed on the sound track in [6]. However, this audio alone method may lead to many potential false detected cases because many sounds often mix different noises and other similar background sound.

Example

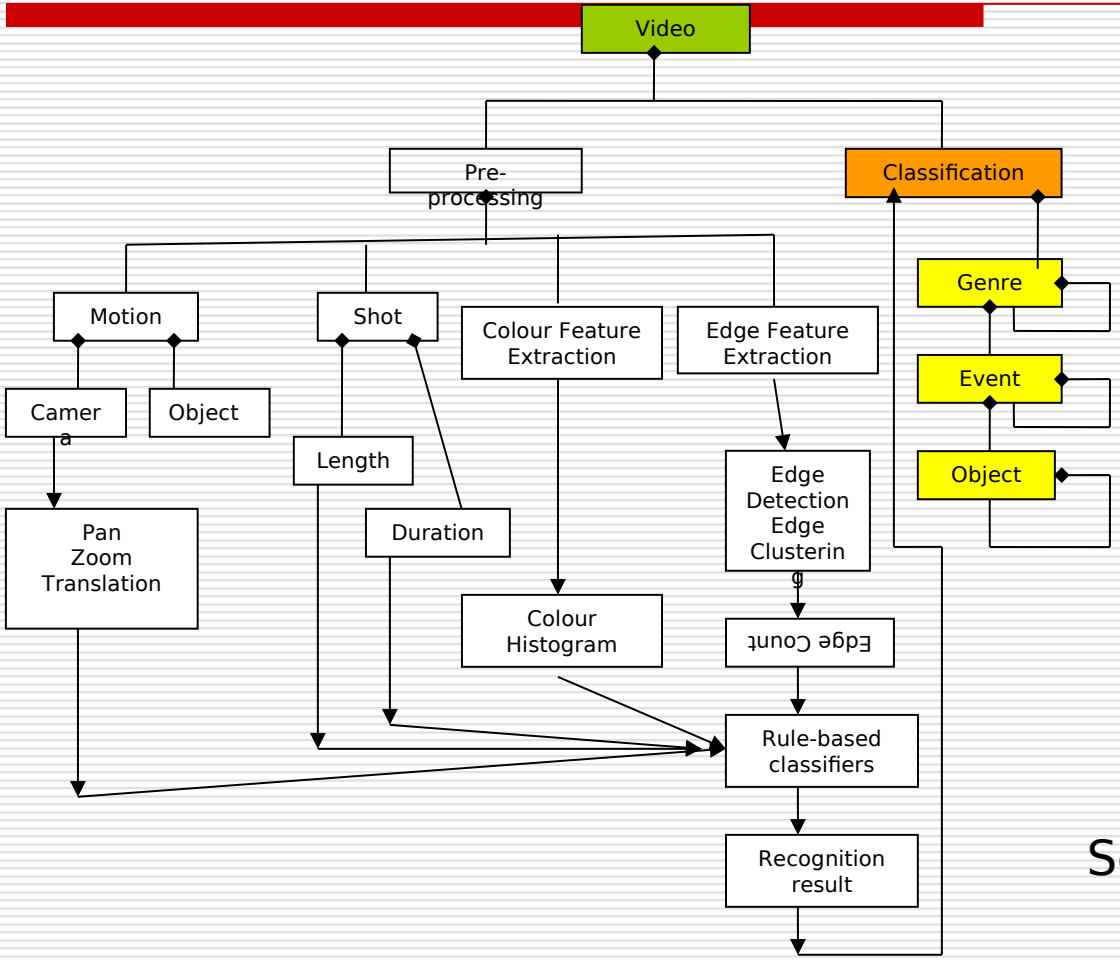

FIGURE 2.3 Schematic diagram for video classification
Source: L.N. Abdullah et al. 2005.

Example

Research	Technique	Features Used	Domain	Disadvantage / Advantage	Future Direction
Lin et al. 2007	A priori algorithm Association rule mining Pre-filtering architecture	Audiovisual	Weather Sports Commercial	Reduce the amount of misclassification errors. Able to identify a high percentage of positive instances in each concept	Due to the different properties of the data sets representing the semantic concepts such as weather, commercial, and sports, they proposed to use different strategies to merge the rules.
Davis & Tyagi 2006	Probabilistic reliable-inference framework Hidden Markov Model (HMM) output likelihoods and action priors Maximum likelihood (ML) and maximum a posteriori (MAP)	Motion	Walking, running, standing, bending-forward, crouching-down, and sitting	The system only makes classifications when it believes the input is 'good enough' for discrimination between the possible actions	